

An Essay
on
Bronchocele.

Respectfully Submitted

To the Faculty
of the
Homoeopathic Medical College
of Pennsylvania

By
Joseph, Hall. Platt.
of Albany New York

Philadelphia January 1836.

Bronchocele.

The Thyroid gland lies upon the first and second rings of the Trachea and on the sides of the Larynx. It consists of two lobes and their connecting band called an isthmus. Sometimes from this isthmus and most frequently from the left side of it, a small pyramidal process runs up and is attached by ligamentous fibres to the Os Hyoides. Morgagni, Mechel and Horner, think its presence is more common than its absence. It is variable in size and length. The whole Thyroid body measures, when extended, about three inches. It rests upon the primitive carotids and internal jugular veins. It is enclosed by

a capsule, which adheres firmly to it and gives it a polished appearance. Its surface is smooth, uniform and of a dark brown color. Its internal structure seems to consist of lobules firmly connected together, although they are not distinctly marked except in a diseased condition. These lobules contain many cells filled with a fatty, yellowish fluid. There are two pairs of arteries running to this body; the superior pair arises from the external carotids, the inferior from the subclavian arteries. The veins are also in two sets, the superior either unite immediately with the jugular veins or are thrown down upon the anterior portion of the neck as the Guttural veins and empty themselves into the internal jugular. The inferior descend up-

on the forepart of the Trachea and enter either into the subclavian or internal jugular veins. Anatomists have not yet been able to trace any connection between the vesicles of the Thyroid body or to satisfactorily determine upon the existence of any excretory duct. Some authors suppose that the pyramidal process performs this function during fetal life, when it seems to be most needed, as it is larger in the fetus than in the breathing being.

Whatever may be its functions, it is now generally conceded that they are intimately connected with the blood and that its secretions are carried off in the circulation.

Its office is not the purification of the blood or its secretions would be carried off, as was formerly supposed, by the

Lymphatics, but our present knowledge of the distribution of these vessels, renders this idea inconsistent. It is now the prevalent belief that all the glands not supplied with ducts, except the spleen, discharge their products into the veins and after passing through the lungs and heart they are distributed to the general system through the arterial circulation.

Therefore whatever may be taken from the blood by these glands is returned to it again though in an altered condition. It may be inferred from this, that the changes which the blood here undergoes, prepare it for higher uses in the economy. As the blood, which has received their secretions, is immediately transmitted to the system after passing through the lungs, it would be

proper to conclude that they serve to maintain the functional activity of the lungs, of the system or of the blood itself. These secretions must therefore be combustible or nutritious. That they are not combustible and destined to form food for respiration, appears from the fact, that but small quantities of fat are found in them, until their period of functional activity has ceased. On the other hand the albuminous nature of their plasma and its finely-granular appearance indicates that a material is here in progress of preparation, which is to be rendered subservient to the formative operations. Some authors suppose, that these organs are concerned, like the absorbent glands, in supplying

the germ of those cells, that form blood corpuscles, and there are many facts that lend it considerable probability. Hence it seems that while the plasma of the blood is taken up by these bodies, a supply of new corpuscles is formed by them at the same time.

Brouchocele, Goitre or Derbyshire neck, as it is variously termed, is a hypertrophied condition of one or both lobes of this gland. Its increase is gradual and it often requires years to produce any considerable bulk. It may be so large as to project considerably beyond the chin and instances are recorded where the tumor extended almost to the middle of the chest.

In the first stages of the disease the tumor is soft, elastic and spongy to the

touch. The integument is movable and of its normal color. In the advanced stages of the disease, however, the tumor becomes more firm, and in some severe cases, some parts of the tumor become dense and firm while the other parts retain their soft and spongy nature.

The tumor is free from pain or even tenderness, in its early stages and in those of moderate size always so. But in the majority of cases where the tumor becomes large and firm, darting pains are felt at times passing through it.

Sometimes the skin assumes a red or copper color and the cervical veins become large and turgid. While the tumor remains soft and of moderate size little or no inconvenience is experienced.

but when large and hard it causes more or less difficulty of swallowing and breathing and affects the clearness of the voice. When the internal extension is considerable, pressure may be made upon the arteries and veins causing palpitation of the heart, attended with great anxiety, throbbing of the carotids and dangerous and even fatal congestion of the brain. The progress of the tumor is generally gradual but it is sometimes liable to great irregularities, remaining for a long time stationary, then rapidly growing for a short time, again remaining stationary or decreasing until it again rapidly increases beyond its former size. In many places where Bronchocele prevails endemically more espe-

cially, in the vallies of the Alps, the disease, most frequently, attacks a class of persons, called Cretins, who are stunted in growth, have enormous heads and a marked degree of mental turpitude, amounting, in some instances, to absolute idiocy. However, Brouchocele has no connection with this impairment of the moral and physical constitution, for in many places where it is prevalent, the development of the mind is not prevented by the disease or its endemic cause. Yet, where Cretinism prevails, we are led to believe, that they are attributable to some common cause. The internal structure and nature of the tumor is different in its various stages of development.

At first, these tumors consist of a gelatinous mass or of a cellular structure containing a glutinous fluid. Sometimes they exhibit a soft and spongy structure with large cavities or cysts, containing a serous fluid. Old tumors contain ossified or cartilaginous masses imbedded in an adipose like matter, and in some cases the tumor is filled with dark blood. Sometimes they consist of a number of cysts filled with a viscid transparent fluid. Often the whole gland resembles a melicerous or steatomatous tumor and sometimes it is a collection of varicose veins. Active inflammation, ulceration or supuration very rarely attend this disease unless produced by external injury or irritating applications.

In some few cases the tumor has taken on spontaneous suppuration and produced an entire cure; but other cases of suppurations have involved parts that have produced death, such as the trachea, causing Asphyxia.

Etiology

Bronchocele is an endemic disease. It is most prevalent in the valleys of the Alps and Apennines. It is not confined to any age or sex, but is more common among females than males nor is it confined to the human species, alone, but is often met with in sheep, horses and horned cattle. Cold weather alleviates the disease. Concerning the remote causes, a great variety of opinions have been advanced. But our real knowledge is

confin'd to a very few general facts and plausible conjectures. It has been supposed that water impregnated with Calcareous matter was the cause of it, but this opinion has proved unsatisfactory, because Bronchocèle is generated in some districts where no Calcareous deposits, in the water, can be found, and again where there are large deposits of Calcareous matter in the water Bronchocèle has never been known. Another opinion is that snow water has a tendency to produce it, but this theory is refuted by the fact that in some places where snow water is the only water drunk Bronchocèle is not known and in other districts where snow and ice are never seen, this disease prevails extensively. Many authors have supposed that certain articles

or modes of diet may produce it, but this is also controverted by the fact, that in contiguous districts, where the habits, modes of living and articles of diet among the people are the same, one district may be infected by this disease, while the others are entirely free from it. There are many advocates of the belief that the causes are in the atmosphere. The idea of the density or humidity of the atmosphere, being the exciting cause, is refuted by the fact, that it prevails both, in deep damp vallies and in elevated places, where the air circulates freely and is not loaded, either with humidity or paludal exhalations, and in a vast number of deep damp vallies, where the air is stagnant and loaded with marshy exhalations, this disease is not

known. Humboldt was of the opinion that a want of electricity was concerned in its production, which opinion he sustains by a number of experiments and facts. The abuse of vinous liquors, the repulsion of cutaneous diseases and mechanical injuries of the Thyroid body have been given as causes.

Coele is of the opinion that the waters of goitrous districts contain the germs of the disease and relates many facts to sustain his position.

Dr Coventry contends, that the waters of Goitrous districts contain Alumina. He says in regard to some experiments, "The surface of the schist, after having been acted upon by the air, becomes covered with a white efflores-

cence, which upon examination is found to be Alum." In certain districts where Alum is manufactured, although elevated and very dry Bronchocele is prevalent.

Dr Gibson implies that the disease arises immediately from the obstruction of the tracheo-thyroidal passages of Borden, of the openings between the sacculus laryngis and the Thyroid body and of other passages, with which we are unacquainted; which he substantiates by dissections of the Thyroid body, in its diseased and natural state. Iodine has been discovered in the waters of some goitrous districts, and, it is supposed, that its use will produce hypertrophy of this gland.

Diagnosis

Branchocele can be distinguished from encysted and other tumors, by its shape, its want of fluctuation and by its mostly affecting both sides.

The goitrous tumor accompanies the motions of the larynx and trachea, in the act of swallowing; this may serve to distinguish between it and aneurism of the carotid arteries, dilatation of the internal jugular veins, and sarcoma of the trachea or neighboring glands. The goitrous tumor is wholly insensible, soft and spongy to the touch and free from pulsation. When, however, the disease is of one lobe and lies directly over the carotid artery, a pulsation is given to the tumor by the artery and may render the diag-

nosis difficult, but here the presence or absence of the aneurismal thrill will serve as a guide; the position will distinguish it from scrofulous enlargements of the glands of the neck, and the firmness and greater proneness of these glands to active inflammation and suppuration.

Another mark of difference between it and dilatation of the internal jugular vein is the softness and compressibility of the venous tumor and its sudden return to its former size when the pressure is removed from it.

Prognosis

If the patient be young and the tumor of recent origin and soft the prognosis will usually be favorable to a cure, but if the tumor be old and hard and

the patient advanced in life the prognosis will at best be uncertain if not unfavorable to an entire cure.

^mTreatment.

All physicians unite upon Iodine or Spongia tosta as specific to this disease. Allopathic dose, not sufficiently large to affect the stomach or the general health. Homoeopathic dose, according to the predilection of the practitioner from the crude material to the highest preparations, where traces of the remedies become lost to the chemist, but still live and speak, beautifully to exemplify the law of the infinite divisibility of matter and the salutary effects of the most minute drug doses upon the human system. Iodine will

usually be found better in the higher attenuations, as its volatile nature admits of the loss of its power when kept in the lower preparations. The medicinal powers of Spongia are more easily retained in the lower attenuations than those of Iodine, and some, on this account prefer the Spongia.

Sepia and Thuja will be found of service when the superficial veins upon the tumor, become varicose and painful.

^mBelladonna, when the difficulty is of an acute nature and arises from taking cold. Aconite, when the tumor arises from a cold, is attended with high fever and the skin upon the tumor is red and inflamed. Silicia and Mercurius, where symptoms of suppuration have

appeared. ^{or} There are various other remedies laid down in the books for the various symptoms of this disease, but if the foregoing remedies are not sufficient for the cure of it, other means will have to be called into requisition to arrest its progress.

Surgical operations.

^{or} There are three operations which have been proposed and tried, but I am not aware that any have been successful in producing a cure. These operations are the introduction of Setons, extirpation of the gland and ligature of the arteries that supply it.

^{or} The Seton, if used, should be of silk and of a sufficient size to prevent hemorrhage from the wound made by the needle.

Great care both before and after the use
of the needle, ^{should be taken} to avoid inflammation,
this operation is not only hazardous to
life, but seldom produces the desired
effect, and should never be resorted to.

The superior Thyroid arteries are tied
at their origin from the external carot-
ids as they lie more superficially there
than nearer to the Thyroid body. The in-
ferior arteries should be tied at their ori-
gin from the subclavian arteries, that
being the most convenient point of ac-
cess. Extirpation is performed by mak-
ing an incision in the mesial line of the
neck; dissecting it from the skin and
muscles and tying every artery as soon
as it is divided. Then, as it is most often,
enlargement of the isthmus or middle

lobe, that needs this operation, a strong
double ligature should be passed through
it and firmly tied on each side of it before
it is cut out.

Happily, this disease, which so often
baffles the skill both of the Physician and
Surgeon is rare in this country.

Harvard Medical College
of Pennsylvania
by

Dr. Isaac Bowman
of Brooklyn N.Y.

Philadelphia January 1861